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EXAMINER
CHANG, JON CARLTON

ART UNIT	PAPER NUMBER
2623	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/052,018	ONGKOJOYO, YANDI	
	Examiner	Art Unit	
	Jon Chang	2623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-11* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-11* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *17 January 2002* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Claim Objections

1. Claim 6 is objected to because of the following informalities:

a) In claim 6, line 3, "try" should be changed to "tries".

b) In claim 6, line 4, "pinpoint" should be changed to "pinpoints".

Appropriate correction is required.

2. Claims 2-5 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

Claims 2, 3, 4 and 5 do not further limit claim 1 from which they depend. Rather, they seem to attempt to replace an element or elements in claim 1 with another.

Specification

3. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required:

The specification does not provide antecedent basis for the following:

a) x-ray body scanner and infrared scanner (claim 2) (in particular, taken singly, or in combination as claimed)

b) correction engine (claim 3)

c) audio output (claim 5)

d) remote database (claim 7)

e) distributed processing (claim 8)

4. The abstract of the disclosure is objected to because it does not consist of a single paragraph. Correction is required (a new abstract on a separate sheet should be submitted). See MPEP § 608.01(b).

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 1-11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

a) Claim 1 is drawn to more than one statutory class of invention, namely a system and method, and further is drawn to an invention which does not fall into any of the statutory classes, namely, a computer program (i.e., computer programs are not patentable *per se*). Essentially, it is a hybrid claim which is improper. It is suggested that separate claims, each drawn to a different statutory class of invention, be drafted, if that is Applicant's desire. It is noted that if a "computer program" type claim is desired, the claim MUST recite that the program is stored or recorded on a computer readable

medium. The claim should then indicate the series of steps or functions performed by a computer.

b) In claim 1, "each object" (first occurrence in line 3) is ambiguous because the wording implies that objects have been previously mentioned. It is suggested that this phrase be changed to "objects".

c) In claim, 2, 3 and 4, the term "sophisticated" is a subjective term, which would not allow one of ordinary skill in the art to ascertain the metes and bounds of the patent protection desired. The term "sophisticated" varies in meaning depending on the current state of the art, as well as the education, background or experience of an interested person.

d) Claim 6 is indefinite. For example, the claim states that the "computer program product...receives data...try [sic] to recognize...pinpoint [sic] each object..." It does not make sense for a "computer program product" itself to perform these functions. It would make more sense for the computer program logic to cause a computer to receive data, tries to recognize, pinpoints, etc.

e) In claim 9, line 2, "the input" lacks antecedent basis. What input is being referred to?

f) In claim 10, "wherein said structure further comprises competitive learning or layer" does not make sense. There may be a word or words missing. Also, "competitive learning" is an action or process step, whereas a structure is something physical.

g) In claim 11, it does not make sense for a structure to further comprise "normalization". Normalization is an action or process step, whereas a structure is something physical.

h) Claim 1 does not provide reference for some limitations of claims 2, 3, 4 and 5. For example, claim 3 requires, "a different kind or more sophisticated image processing, image correction, and image enhancement engine." However, claim 1 does not mention any of these elements. Similarly, claim 5 recites "other kinds of user interfaces", but "user interfaces" are not mentioned in claim 1. Similar remarks are applicable to claims 2 and 4.

i) In claim 7, it does not make sense that a program comprises a remote database.

j) Claims not mentioned specifically are indefinite by reason of their dependence upon the indefinite claims just described.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States

only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8. Claim 9 is rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent 5,386,689 to Bozich et al. (hereinafter "Bozich").

As to claim 9, Bozich discloses a neural networks structure having shift registers or ring buffers that exchanges the input to neurons in a layer (column 11, line 57 to column 12, line 30; column 13, lines 17-21; column 13, lines 56-60).

9. Claim 9 is rejected under 35 U.S.C. 102(b) as being anticipated by the article, "A New VLSI architecture for Perceptron Network" by Hasan et al. (hereinafter "Hasan").

As to claim 9, Hasan discloses a neural networks structure having shift registers (note that the use of "or", allows the Examiner to choose one of the two claimed alternatives) that exchanges the input to neurons in a layer (abstract; section II, first paragraph).

10. Claims 1, 6 and 7 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent 6,185,272 to Hiraoglu et al. (hereinafter "Hiraoglu").

As to claim 1, as best understood, Hiraoglu discloses a system, method and computer program (note the system is a computer-based system, Fig.5, which inherently utilizes a computer program, and performs a method) that receives data from an image acquisition device comprising a regular x-ray screening device (column 7,

lines 48-49), tries to recognize each object in said data (column 2, lines 48-49; column 10, line 52 to column 11, line 3), and pinpoints each object it is trained to recognize along with its class and hazard level (column 2, lines 36-38; column 2, lines 48-49; column 3, lines 33-35; column 12, lines 33-36; column 12, lines 42-45; column 14, line 35-39; column 14, lines 45-49; column 15, lines 20-23; column 18, line 54 to column 19, line 1; "hazard level" is implied with regard to the characterization of threat objects, the quantity of explosives, characteristics of the detected item, or the nature of the suspected objects, etc.).

With regard to claim 6, as best understood, the remarks provided above for claim 1 are applicable. Since Hiraoglu's system is computer-based, the computer program product as claimed is inherent in the system.

Regarding claim 7, as best understood, Hiraoglu discloses a remote database (column 11, lines 21-30; the data storage system 206 is remote from the subsystem 208, as shown in fig. 5, for example).

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

12. Claims 2-5 and 7-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hiraoglu.

Regarding claim 2, as best understood, Hiraoglu does not disclose a different kind or more sophisticated image acquisition device comprising x-ray body scanner and infrared scanner. The Examiner takes Official Notice that x-ray body scanners and infrared scanners are exceedingly well known in the art. Note that Hiraoglu contemplates detecting any type of object contained within any type of item (column 19, lines 30-32). To detect an item contained in a person's clothing or on a person's body, for example, it would therefore have been obvious to one of ordinary skill in the art to utilize a x-ray body scanner or an infrared scanner. This would provide the added advantage of detecting objects on persons, not just baggage, thus improving security. This therefore provides additional motivation for the modification.

As to claim 3, as best understood, Hiraoglu does not disclose different kinds of image processing, image correction, and image enhancement engines. However, the Examiner takes Official Notice that these are well known in the art. Providing image processing, correction and enhancement, would result in better images of objects, and

thus improve overall results of the system. Therefore, it would have been obvious to one of ordinary skill in the art to utilize different kinds of image processing, image correction, and image enhancement engines as needed, based on designer preference.

As to claim 4, as best understood, Hiraoglu does not disclose a different object recognition engine. However, the Examiner takes Official Notice that different object recognition engines are known in the art. Different object recognition engines provide different characteristics, advantages, and are pertinent to different situations. It therefore would have been obvious to one of ordinary skill in the art to utilize a different object recognition engine depending on the needs or requirements of a designer.

As to claim 5,as best understood, Hiraoglu does not disclose the method of claim 1 further comprises other kinds of user interfaces, comprising audio output. However, the Examiner takes Official Notice that user interfaces comprising audio output are well known in the art. An audio output would provide the inherent advantage of more effectively alerting an operator of a threat object, thus improving security. Therefore, it would have been obvious to one of ordinary skill in the art to employ a user interface comprising audio output in Hiraoglu's system.

As to claim 8, Hiraoglu does not disclose distributed processing. However, the Examiner takes Official Notice that distributed processing is well known in the art. Distributed processing would provide the inherent advantage of increasing processing speed. It would therefore have been obvious to one of ordinary skill in the art to employ distributed processing in Hiraoglu's system.

13. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bozich or Hasan.

As to claim 11, neither Bozich or Hasan disclose normalization. However, the Examiner takes Official Notice that normalization is well known in the neural network art. Normalization, of inputs for example, would provide more accurate results, and thus improve security screening. Therefore, it would have been obvious to one of ordinary skill in the art to utilize normalization in Bozich's or Hasan's neural networks.

14. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Bozich and the article, "Stable On-Line Evolutionary Learning of NN-MLP" by Zhao.

As to claim 10, Bozich does not disclose competitive learning. However, competitve learning is well known in the art as evidenced by Zhao (e.g., page 1374, left column, fourth line down). Competitive learning can provide a simple and efficient learning strategy (see Zhao) for neural networks. Therefore, it would have been obvious to one of ordinary skill in the art to utilize in Bozich's neural network.

15. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Hasan and the article, "Stable On-Line Evolutionary Learning of NN-MLP" by Zhao.

As to claim 10, Hasan does not disclose competitive learning. However, competitve learning is well known in the art as evidenced by Zhao (e.g., page 1374, left

column, fourth line down). Competitive learning can provide a simple and efficient learning strategy (see Zhao) for neural networks. Therefore, it would have been obvious to one of ordinary skill in the art to utilize in Hasan's neural network.

References Cited

16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent 5,974,111 to Krug et al. discloses a system for identifying contraband using x-rays. The reference discloses, among other things, evaluating "threat potential" and providing a score, and displaying color overlays on images to indicate types of objects. This reference is considered close to the claimed invention (claim 1).

U.S. Patent 6,067,366 to Simanovsky discloses a system for detecting objects using computed tomography and erosion/dilation.

"Detection of Explosives in Checked Airline Baggage Using An Artificial Neural System" by Shea et al. discloses using a neural network for detecting explosives in baggage.

"Evaluation of Automatic Explosive Detection Systems" teaches using x-ray technology to discriminate between different classes of materials and color coding them on images.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jon Chang whose telephone number is (571) 272-7417. The examiner can normally be reached on M-F 8:00 a.m.-6:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amelia Au can be reached on (571)272-7414. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jon Chang
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Art Unit 2623

Jon Chang
April 4, 2005